

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
14 July 2005 (14.07.2005)

PCT

(10) International Publication Number
WO 2005/064794 A1

(51) International Patent Classification⁷: **H03K 17/13**

(21) International Application Number:
PCT/BR2004/000243

(22) International Filing Date:
15 December 2004 (15.12.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
PI 0305983-9 30 December 2003 (30.12.2003) BR

(71) Applicant (for all designated States except US): **EM-PRESA BRASILEIRA DE COMPRESSORES S.A.-EMBRACO** [BR/BR]; Rua Rui Barbosa, 1020, CEP-89219-901 Joinville - SC (BR).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **RIBEIRO DUARTE, Ronaldo** [BR/BR]; Rua Henrique Miers, 574, apto.05, CEP-89218-600, Joinville, SC (BR).

(74) Agent: **DANNEMANN, SIEMSEN, BIGLER & IPANEMA MOREIRA**; Caixa Postal 2142, Rua Marquês de Olinda, 70, CEP-22251-040- Rio de Janeiro- RJ (BR).

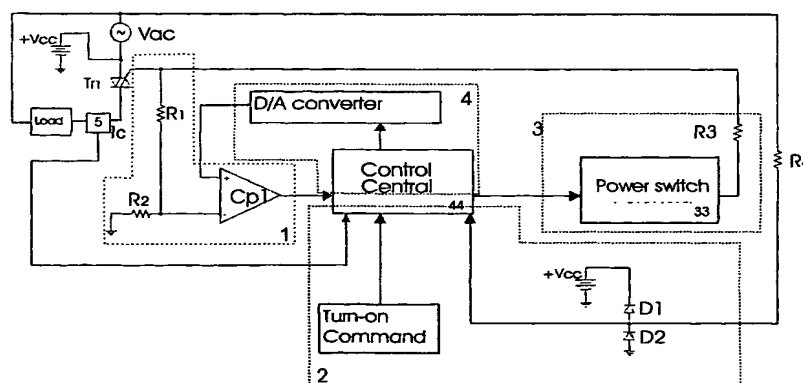
(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— with international search report

[Continued on next page]

(54) Title: A SYSTEM AND A METHOD OF CONTROLLING THE TRIGGERING OF A TRIAC



(57) Abstract: The present invention relates to a system of controlling and triggering a TRIAC as well as to a method of controlling the triggering of a TRIAC, by actuating a load with any power factor from a single short-duration pulse at the gate of the TRIAC. In order to make use of a single comparator (CP₁) and also to operate without limitation at the current level (i_c), a system of controlling and triggering a TRIAC (TR) is foreseen, the TRIAC comprising a gate (G), the TRIAC (TR) being connected to a load, the gate (G) being electrically connected to a control unit (4), which actuates the TRIAC (TR) for selectively applying a network voltage (V_{AC}) to the load and enabling the circulation of an electric current (i_c) in the load, the system comprising a gate voltage detection unit (1), a control unit (4), the gate voltage detection unit (1) being electrically connected to a control unit (4), the control unit (4) establishing a gate (G) voltage limit value (+limit, -limit) and generating a pulse at the gate (G) of the TRIAC (TR) to keep it in conduction, the pulse at the gate (G) being generated from a comparison between the voltage limit value (+limit, -limit) established by the control unit (4) and a voltage measured at the gate (G) from the gate voltage detection unit (1), the control unit (4) measuring the electric current (i_c) and adjusting the voltage limit value (+limit, -limit) in a way proportional to the current (i_c) value measured. A method is also provided for controlling the triggering of a TRIAC (TR) in order to actuate the system of the present invention.

WO 2005/064794 A1



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.